DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
INSTALLATIONS LOGISTICS AND ENVIRONMENT
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MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Interim Guidance for Biological Warfare Materiel (BWM) and Non-Stockpile Chemical Warfare Materiel (CWM) Response Activities

The enclosed Interim Guidance has been developed for immediate implementation as a result of the chemical and biological warfare materiel that are being discovered on and off military installations. The purpose of this Interim Guidance is to ensure the protection of workers, the public, and the environment during BWM and CWM response activities and that these response activities are conducted in accordance with safety and environmental laws and requirements. This Interim Guidance has been coordinated with those Army organizations with BWM and/or CWM responsibilities.

Although the potential for discovering BWM is extremely remote (the Army does not maintain a BWM stockpile and has no BWM remediations planned), the potential for discovering CWM is very real. Implementation of this Interim Guidance is required when responding to planned and unplanned discoveries of BWM and non-stockpile CWM (excluding former production facilities) on active Department of Defense installations (including installations in a standby or layaway status), on installations awaiting realignment or closure under the Base Realignment and Closure program, and at Formerly Used Defense Sites. This Interim Guidance will be published as an Army regulation at a future date.

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Enclosure

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Interim Guidance for Biological Warfare Materiel (BWM) and
Non-Stockpile Chemical Warfare Materiel (CWM) Response Activities

1. Policy.

a. Suspect chemical and biological warfare materiel may be discovered during Army restoration and remediation activities at active installations, Base Realignment and Closure (BRAC) sites, and Formerly Used Defense Sites (FUDS). Experience has shown that the discovery of CWM is very real. With regards to BWM, the Army does not maintain a BWM stockpile, has not planned any BWM remediations, and the likelihood of accidental discovery is extremely remote. There is, nonetheless, the potential for encountering BWM. As the Department of Defense (DoD) Executive Agent for CWM and BWM, the Army is responsible for the safe, timely, and effective response to incidents involving these materiels.

b. CWM is defined as an item configured as a munition containing a chemical substance that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. The term CWM includes V- and G- series nerve agent, H- and HN- series blister agent, and lewisite in other-than-munition configurations. Due to their hazards, prevalence, and military-unique application, chemical agent identification sets (CAIS) are also considered CWM. CWM does not include: riot control agents; chemical herbicides; smoke and flame producing items; or soil, water, debris, or other media contaminated with chemical agent. Those substances not meeting the definition of CWM will be considered and treated as industrial chemicals (CWM safety and health procedures (e.g., AR 385-61 and DA PAM 385-61) do not apply to industrial chemicals).

c. The objectives of BWM and non-stockpile CWM response activities are the safe, timely, and effective removal of public and environmental health and safety hazards posed by the materiel, in compliance with statutory and regulatory requirements and in coordination with the Environmental Protection Agency (EPA) and State and local authorities. Appendix A lists specific responsibilities within the Army for executing BWM and non-stockpile CWM response activities. Appendix C outlines procedures for removal and remediation of BWM and non-stockpile CWM.

d. Due to the hazards of BWM and CWM and the uncertainty and risks posed by BWM and non-stockpile CWM response activities, the requirements in this policy are mandatory. Deviations from this policy require the approval of the Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health.

e. The Army has conducted archival research and maintains a database of those locations where CWM was (or where it was suspected to have been) manufactured, tested, stored, deployed, or disposed. The Program Manager for Chemical Demilitarization maintains the CWM database.

2. Public Affairs. A comprehensive public affairs effort is essential on all BWM and non-stockpile CWM response activities. For these activities, an effective public affairs plan shall be initiated at the earliest opportunity. All communications with the public and the media regarding response activities shall be coordinated and disseminated through appropriate public affairs channels.

a. For emergency response activities, the On-Scene Coordinator (OSC) shall specify the public affairs responsibilities.

b. For remediation activities on active installations, the Major Army Command (MACOM) shall specify the public affairs responsibilities; for remediation activities on FUDS projects, the U.S. Army Corps of Engineers (USACE) shall specify the public affairs responsibilities.

c. The U.S. Army Chemical and Biological Defense Command (CBDCOM) and the Program Manager for Chemical Demilitarization (PMCD) will support public affairs efforts.

3. Site Activities.

a. Mixed sites. Some sites may contain non-stockpile CWM combined with explosives, BWM, and/or industrial chemicals. In such instances, the following hierarchy shall be followed in responding to the hazards from such combinations: the explosives hazards shall be mitigated first, followed by the non-stockpile CWM hazards, followed by the BWM hazards, and lastly, the hazards from industrial chemicals.

b. Risk assessment. Any activity on a BWM or non-stockpile CWM response project will require the determination of risk to the public and to site workers. Risks to human health and the environment as a result of an explosion or release of biological or chemical agent are the primary factors in determining the effectiveness of risk management decisions concerning BWM and non-stockpile CWM. Response actions will be cost effective. A site-specific maximum credible event (MCE) shall be developed to form a basis to generate hazard zones: hazard zones shall be computed using the MCE and Army approved atmospheric dispersion modeling. Quantitative risk assessment codes shall also be developed to assess response hazards (e.g., dispersion of agent-contaminated soil, explosive hazards). Public risk information and controls shall be addressed in safety planning documents.

c. Rights of Entry. On FUDS projects, emergency removal and remediation activities shall not be conducted without legally executed rights-of-entry or an easement obtained from the property owners affected by the activities.

d. Intrusive activities. Intrusive activities shall not be conducted unless the benefits

of intrusive versus non-intrusive response justify costs (as proven by risk analysis) and, for projects involving non-stockpile CWM, the Army has the capability to handle any non-stockpile CWM recovered. Intrusive activities will be prohibited when unprotected or untrained personnel are within the hazard zone.

e. Characterization. The Technical Escort Unit (TEU) of the U.S. Army Chemical and Biological Defense Command (CBDCOM) will assess recovered BWM and non-stockpile CWM to determine if the materiel is explosively configured, if it is fuzed, its chemical and/or biological composition, and if the materiel is safe for movement, storage, treatment, and disposal. The Edgewood Research, Development, and Engineering Center (ERDEC) of CBDCOM will characterize non-stockpile CWM and take the lead in the characterization of unknown substances; the Medical Command's U.S. Army Medical Research Institute for Infectious Diseases (USAMRIID) will, on a cost-reimbursable basis, characterize BWM after the absence of explosives and chemical agent has been established.

(1) Chemical warfare materiel shall be managed in accordance with AR 385-61 and DA PAM 385-61.

(2) Recovered soil and debris contaminated with chemical agent is not considered CWM and will be identified, handled, and managed in accordance with 29 CFR 1910.120, 40 CFR 260-279 and/or 40 CFR 300, and, where applicable, equivalent State regulations (removal and disposal activities will be coordinated with the Medical Command and the Office of The Surgeon General (OTSG)).

(3) Recovered BWM will be considered and managed as biosafety level 3 (BSL-3) agent (in accordance with 32 CFR 626-627, AR 385-69, and DA Pam 385-69) until it has been fully characterized or assigned a different biosafety level by USAMRIID.

f. Recovery and packaging.

(1) Recovered non-stockpile CWM will be overpacked in an Army-approved container that meets DOT packaging regulations (49 CFR parts 172-178) and will be properly placarded, labeled, and manifested prior to transport off site. Off-site transport of recovered non-stockpile CWM shall be in accordance with 50 USC 1512-1517. Off-site transport requires a transportation plan developed by the Program Manager for Chemical Demilitarization (PMCD), in coordination with the Commander of CBDCOM, and approved by the U.S. Department of Health and Human Services (USDHHS). Emergency removal activities may be initiated before, but off-site transportation of recovered non-stockpile CWM is not permitted until, this plan has written approval by USDHHS. Audit trails of all non-stockpile CWM transportation and receipts of such non-stockpile CWM shall be established.

(2) Recovered BWM shall be rendered safe by decontamination (inactivation) through disinfection or sterilization and rendered nonhazardous before disposal. Items for disposal shall be packaged, labeled to verify decontamination, and tracked to document disposition. Combustible disposable items may be incinerated in an appropriate incinerator having the necessary environmental permits or otherwise disposed of in accordance with applicable State and local regulations; noncombustible disposable items shall be disposed of by a licensed waste hauler.

g. Emergency destruction of CWM. In situations where TEU has determined that a recovered item is unsafe to move or store, emergency destruction of recovered non-stockpile CWM may be permitted. In these situations, an Emergency Destruction Plan shall be prepared by PM-NSCM in coordination with CBDCOM. Upon notification of the State (and, as required, other appropriate regulators) and review by USDHHS, the Installation Commander (for active sites) or the USACE District Commander (for FUDS sites) may authorize the emergency destruction. Prior to emergency destruction, if time permits, the Army Safety Office and the Deputy Assistant Secretary of the Army, Environment, Safety, and Occupational Health, shall be notified. In accordance with 50 USC 1518, immediate notification of the destruction of CWM (within fourty-eight hours of the destruction) will be provided to Congress.

h. Disposition.

(1) Disposition of recovered non-stockpile CWM will be in accordance with the following hierarchy. The first preference is on-site treatment. If on-site treatment is not an option, the next preference is either on-site storage or in-State storage at the nearest military facility while awaiting future disposition. If none of these options are available, the last preference is out-of-State storage while awaiting future disposition. Only those CWM storage facilities approved (to include appropriate environmental permits) for receipt and storage of recovered non-stockpile CWM will be used for storage.

(2) Recovered BWM shall be packaged, labeled, marked, prepared for transport, and transported in accordance with applicable and Federal, State, and local laws and regulations, including 42 CFR Part 72 (Interstate Shipment of Etiologic Agents), 49 CFR 172 and 173, 9 CFR 122, DA Pam 385-69, and requirements of the International Air Transport Association (IATA). All BSL-4 or USDA-restricted animal pathogens shall be transported accompanied by a designated courier who will monitor aspects of the shipment and ensure that required transfers have been completed and documented and final receipt accomplished and acknowledged. Audit trails of all BWM transportation and receipts of such materiel shall be established.

i. Emergency response activities.

(1) BWM and non-stockpile CWM emergency response activities shall be conducted to protect public and worker health and the environment in accordance with applicable statutes and implementing regulations. Safety planning, coordination with the EPA, State, and civilian authorities and responders, and community involvement will be priorities. Non-stockpile CWM emergency response activities will be conducted in accordance with the National Contingency Plan (NCP) and the U.S. Army Materiel Command's (AMC) "Recovered Chemical Warfare Materiel Emergency Response Plan" (RCWM-ERP) dated February 5, 1997.

(2) Upon the discovery of BWM or non-stockpile CWM, the Army Operations Center and the Director of Army Safety will be notified. This, in turn, will initiate notification of appropriate elements within the Army Staff of the discovery and emergency response by CBDCOM. When the discovery involves non-stockpile CWM, CBDCOM response actions shall be carried out in accordance with the RCWM-ERP. An OSC for the emergency response activities will be recommended by the MACOM and designated by the Deputy Chief of Staff for Operations and Plans (HQDA, DCSOPS). The OSC will designate the project management team, determine additional support needed, and oversee development of the project management plan and the public involvement and response plan.

(3) The scope of emergency response activities is limited to assessing the situation and isolating and removing any immediate BWM and/or CWM hazards to the public and the environment. A sampling plan (incorporating risk-based soil, air, and water action levels) shall be established to determine BWM and/or chemical agent contamination of surrounding media. (This sampling plan will be developed in coordination with OTSG and the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) to ensure adequate sampling and health-based criteria.)

(4) Emergency response activities will be discontinued once the OSC has determined that the immediate BWM and/or CWM hazard has been removed. When this has occurred, the USACE District Engineer (for FUDS projects) or the Installation Commander (for active installation and BRAC sites) will decide, in accordance with Defense Environmental Restoration Program (DERP) procedures, whether to conduct further actions. This decision will be based on health-risk criteria and cost feasibility and shall have the concurrence of OTSG. The site will be controlled (i.e., secured with fencing or other measures to limit access) and further response investigations will be conducted to assess long-term impact to human health and the environment.

j. Non-stockpile CWM planned response activities.

(1) Non-stockpile CWM planned response activities shall be conducted to protect public and worker health and the environment in accordance with applicable statutes and implementing regulations. As in emergency removal activities, safety planning and coordination with the EPA, State, and civil authorities will be priorities.

(2) Prior to initiation of any planned response activities, including site investigation, approved safety and health plans and procedures are required. For investigative and assessment activities (e.g., soil and water sampling, geophysical analysis, installation of monitoring wells when ordnance avoidance techniques are used), site-specific safety and health plans, approved by the MACOM, are required. For routine investigative and assessment activities, approval may be delegated by the MACOM to the installation, however, the MACOM retains responsibility for the quality and safety of the investigative and assessment activities. For remediation activities (e.g., surface removal of CWM or excavations when the intent is to uncover, characterize, and remove geophysical anomalies), safety submissions (as defined in Appendix B), prepared by the agency with overall project responsibility and approved by the Army Safety Office, are required. Safety submissions will serve as the specifications for conducting work activities at a project. Deviation from the responsibilities, procedures, and controls outlined in a safety submission is not permitted unless approved by the Army Safety Office. In addition, tabletop exercises and a pre-operational survey shall be successfully completed prior to initiating any intrusive activity. Tabletop exercises will be conducted by the MACOM with overall responsibility for the activity, with the participation of other Army agencies and local responders involved in or supporting the activity. The pre-operational survey will be conducted by the Army Safety Office, using a team of chemical agent and remediation subject matter experts. Responsibility for the pre-operational survey may be delegated to the MACOM with overall responsibility for the remediation activity.

(3) As with emergency response activities, a sampling plan (incorporating risk-based soil, air, and water action levels) shall be established to determine chemical agent contamination of surrounding media. Upon completion of planned activities, a decision document, in accordance with applicable environmental statutes and regulations, will be developed to determine if further remediation activities are required (or to substantiate the decision that no further actions are required). This decision will be based on health-risk criteria and cost feasibility and shall have the concurrence of OTSG. The decision document will serve as record that complete remediation to acceptable levels of risk consistent with the anticipated land use has been accomplished. The decision document shall be developed and approved in accordance with AR 200-1.

APPENDIX A

RESPONSIBILITIES

1. The Assistant Secretary of the Army (Installation, Logistics and Environment) (ASA(IL&E)) is responsible for establishing overall Army environment, safety, and occupational health policy. The ASA(IL&E) will exercise oversight of all aspects of environment, safety, and occupational health statutory compliance. These responsibilities are carried out through the Deputy Assistant Secretary of the Army, Environment, Safety and Occupational Health.

2. The Director of Army Safety, Office of the Chief of Staff, U.S. Army, administers and directs the Army safety program as specified in AR 385-10. The Director of Army Safety is responsible for -

a. Establishing safety policy and standards for the Army chemical safety program, for biological defense research, development, testing and evaluation, and for investigation of chemical and biological defense research, development, testing and evaluation events.

b. Coordinating and approving safety waivers and exemptions to personnel safety policies.

c. Approving safety submissions for non-stockpile chemical warfare materiel (CWM) activities.

d. Conducting pre-operational surveys for non-stockpile CWM activities.

3. The Army Operations Center is responsible for:

a. Receiving notification of biological warfare materiel (BWM) and non-stockpile CWM discoveries and events.

b. Notifying Army Staff elements of BWM and non-stockpile CWM discoveries and events.

c. Coordinating emergency response to BWM and non-stockpile CWM discoveries and events.

4. The Surgeon General (OTSG), through the U.S. Army Center for Health Promotion and Preventive Medicine, is responsible for -

a. Providing policy on the health aspects of pollution resulting from Army activities and operations and disseminating guidance, including educational materials on environmental health aspects, recommendations to mitigate or control adverse impacts and to protect individuals from hazardous exposure, and health risk assessments for environmental restoration.

b. Developing toxicological profiles concerning military-unique chemicals and unregulated hazardous substances (those not specified in 10 USC 2704a) and

establishing environmental standards for chemical agents and weapons demilitarization; developing and preparing chemical exposure and drinking water criteria for environmental contaminants (in particular, military-unique compounds) for ASA(IL&E) promulgation; and conducting toxicity studies and developing health advisories and standards, criteria, and protocols for chemical exposure and drinking water.

c. Approving health risk assessments.

d. Establishing public health criteria and standards for Army use.

e. Recommending standards for the safe storage, use, discharge, and ultimate disposal of hazardous materials and in the absence of environmental and public health effects criteria, develop, compile, and evaluate environmental toxicology data.

f. Monitoring the public health and environmental aspects of the Army's waste management programs.

g. Advising the U.S. Army Corps of Engineers (USACE) on the health aspects of managing hazardous and solid waste.

h. Providing guidance to the Army Staff, Major Army Commands (MACOMs), and executing organizations to promote compliance with the occupational health requirements, particularly for training and periodic health monitoring of all personnel, including project managers, employed or otherwise carrying out official duties on environmental restoration project sites.

i. Serving as the Army's liaison with Environmental Protection Agency and the Agency of Toxic Substances and Disease Registry of the Department of Health and Human Services concerning health-related issues in the installation restoration (IR) and formerly used Defense sites (FUDS) programs.

j. Evaluating and providing consultation on IR and FUDS program proposals affecting human health, including removal actions that meet the definition of an interim remedial action.

k. Providing assistance in development of applicable or relevant and appropriate requirements for IR and FUDS program activities and develop or review removal criteria for remedial actions.

5. The Judge Advocate General (OTJAG) is responsible for providing advice on the applicability of laws to biological warfare materiel (BWM) and non-stockpile CWM response and recovery activities.

6. The Assistant Chief of Staff for Installation Management (ACSIM) is responsible for providing guidance on the application of environmental policy for BWM and non-stockpile CWM response and recovery activities. The U.S. Army Environmental Center (USAEC), under their restoration mission, will provide program oversight for the ACSIM.

7. The Director, U.S. Army Nuclear and Chemical Agency (USANCA), is responsible for -

a. Providing expertise on chemical safety, chemical agent operations, and accident

incident response.

b. Providing technical support and assistance to all Army elements and evaluating chemical safety and assisting the Army in formulating chemical safety policies.

c. Assisting the Director of Army Safety in performing chemical safety evaluations, in conducting safety assistance visits, in overseeing chemical agent operations, and in developing chemical safety policy.

8. The Deputy Chief of Staff for Logistics (DCSLOG) is responsible for -

a. Developing policy and guidance for transporting chemical and biological agents and related materiel and recovered non-stockpile CWM and BWM.

b. Developing policy and guidance for explosives ordnance disposal (EOD) support for non-stockpile CWM operations.

9. The Project Manager for Non-Stockpile Chemical Materiel (PM-NSCM) is responsible for -

a. Providing centralized management and direction to the Department of Defense for treatment and disposal of non-stockpile chemical materiel in a safe, environmentally sound, and cost-effective manner.

b. Receiving (from the U.S. Army Technical Escort Unit, USACE, or MACOM/Installation) and temporarily storing overpacked non-stockpile CWM.

c. Transporting, storing, treating, and final disposal/disposition of non-stockpile CWM (including environmental documentation for transportation and storage site selection).

d. Preparing transportation, interim holding facility, destruction plans, and emergency destruction plans, and providing coordination of all plans with the Department of Health and Human Services.

10. The Commander, U.S. Army Corps of Engineers (USACE) is responsible for the following at FUDS -

a. Overall project management and on-site management.

b. Site remedial investigation and feasibility studies of Defense Environmental Restoration Program (DERP) projects with potential for BWM and non-stockpile CWM.

c. Conducting site archive searches and completing Archive Search Reports for DERP projects.

d. On remediation projects: (1) site safety documentation; (2) site investigations; (3) site characterizations; (4) surface and deep soil sampling; (5) devegetation and site clearing; (6) issuing site reports; (7) site security; (8) site excavation (unearthing of suspect BWM or non-stockpile CWM); (9) placing sampling wells in and around sites; (10) operating sampling wells; (11) restoring sites at close of remediation activities; and (12) environmental documentation.

11. The U.S. Army Materiel Command's (AMC) Chemical and Biological Defense

Command (CBDCOM) is responsible for -

a. Providing technical support and assistance to all DoD elements in evaluating the risk management posture of an operation and assisting the Army in formulating chemical/biological risk management policies.

b. Providing the Technical Escort Unit for intrusive operations in accordance with established procedures (excavation, recovery, packaging, and transport of non-stockpile CWM and BWM, and decontamination/neutralization of chemical agent).

c. Providing the Edgewood Research, Development and Engineering Center for characterizing and monitoring non-stockpile CWM.

d. Providing aviation assets for the transportation of RCWM.

e. Providing the Chemical Initial Response Force Commander/Federal On-Scene Coordinator for a tier two emergency response (in accordance with AMC's "Recovered Chemical Warfare Materiel Emergency Response Plan" (RCWM-ERP) dated February 5, 1997) where no other Army official exists.

f. Providing the Chemical Service Response Force Commander/Federal On-Scene Coordinator and staff for a tier three emergency response (in accordance with AMC's RCWM-ERP).

g. Emergency destruction of RCWM.

h. Providing technical advice and assistance on BWM and non-stockpile CWM safety and assisting in performing BWM and non-stockpile CWM safety management evaluations.

i. Providing expertise on chemical safety and health, chemical agent operations, and accident/incident response.

12. The U.S. Army Medical Command's U.S. Army Medical Institute for Infectious Diseases (USAMRIID) is responsible for providing assets for on-scene consultation regarding characterization and neutralization of BWM.

13. The Commanding General, Forces Command (FORSCOM) is responsible for planning and providing Explosive Ordnance Disposal support and security forces to a BWM or non-stockpile CWM accident or incident site when requested by the Initial Response Force or Service Response Force Commander.

14. MACOM/Installation Commanders are responsible for the following on IR and Base Realignment and Closure (BRAC) projects -

a. Overall project management and on-site management.

b. Site remedial investigation and feasibility studies of DERP projects with potential for BWM and non-stockpile CWM.

c. Conducting site archive searches and completing Archive Search Reports for DERP projects.

d. On remediation projects: (1) site safety documentation; (2) site investigations, (3) site characterizations; (4) surface and deep soil sampling; (5) devegetation and site clearing; (6) issuing site reports; (7) site security; (8) site excavation (unearthing of

suspect BWM or non-stockpile CWM); (9) placing sampling wells in and around sites; (10) operating sampling wells; (11) restoring sites at close of remediation activities; and (12) environmental documentation.

e. Coordinating non-stockpile CWM response activities with USAEC.

APPENDIX B

DEFINITIONS

Active installations: Installations under the custody and control of the Army; includes operating installations, installations in a standby or layaway status, and installations awaiting realignment or closure under the Base Realignment and Closure program (BRAC).

Biological warfare materiel (BWM): An item configured as a munition containing an etiologic agent that is intended to kill, seriously injure, or incapacitate a person through its physiological effects; includes biological agent identification sets. BWM can also include etiologic agents that are designed to damage or destroy crops that are intended for human consumption.

Biological warfare materiel and non-stockpile chemical warfare materiel emergency response: The cleanup or removal of BWM or non-stockpile CWM from the environment; such actions as may be necessarily taken in the event of the threat of the release of BWM or non-stockpile CWM into the environment; such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of BWM or non-stockpile CWM; the disposal of removed materiel or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment that may otherwise result from BWM or non-stockpile CWM. Includes, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, post-removal site control, where appropriate, and any emergency assistance that may be provided under the Disaster Relief Act of 1974.

Biosafety level: A combination of facilities, equipment, and procedures used in handling etiologic agents to protect the worker, environment, and the community. This combination is proportional to the potential hazard of the etiologic agent in question. Biosafety level criteria are described in the Department of Health and Human Services Publication No. (CDC) 93-8395, May 1993, entitled "Biosafety in Microbiological and Biomedical Laboratories."

Chemical warfare materiel (CWM): An item configured as a munition containing a chemical substance that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. Also includes V- and G- series nerve agent, H-series blister agent, and lewisite in other-than-munition configurations. Due to their hazards, prevalence, and military-unique application, chemical agent identification sets (CAIS)

are also considered CWM. CWM does not include: riot control agents; chemical herbicides; smoke and flame producing items; or soil, water, debris or other media contaminated with chemical agent.

Civil authorities: State and local government authorities and State and local emergency responders (agencies, from the local community, providing security, fire, and emergency medical response support to the BWM or non-stockpile CWM removal or remediation activity).

Emergency destruction plan: Planning document that describes the procedures to be taken to safely conduct the emergency in-place detonation of recovered non-stockpile CWM which has been deemed by the U.S. Army Technical Escort Unit to be unsafe to move. The plan delineates the procedures and hazards of the emergency detonation and the hazard control measures and outlines community involvement measures to be taken.

Emergency removal: See "Biological warfare materiel and non-stockpile chemical warfare materiel emergency response."

Etiologic agent: A viable microorganism, or its toxin, that causes or may cause human disease, including those agents listed in 42 CFR 72.3 of the Department of Health and Human Services regulations and any materiel of biological origin that poses a degree of hazard similar to those organisms. Toxic materials of biological origin that has been isolated from the parent organism. The toxic material of plants, animals, or microorganisms (Title 32 Code of Federal Regulations Part 626, "Biological Defense Safety Program," July 1, 1995).

Etiological decontamination: The physical or chemical processes by which an object or area, contaminated with a harmful or potentially harmful etiologic agent, is made safe for handling or use. Such processes include physical removal of all contaminants, thermal destruction (incineration) or biological activity (sterilization), chemical inactivation (biocidal process), gamma radiation, or a combination of these methods.

Formerly Used Defense sites (FUDS): Those properties owned, leased, or otherwise possessed by the United States and formerly under the jurisdiction of the Secretary of Defense; or manufacturing facilities for which real property accountability rested with DoD but were operated by contractors (Government owned-contractor operated) and later legally disposed of.

Geophysical techniques: Techniques utilized for the detection and measurement of buried anomalies (e.g., ferro-magnetic indicators and ground penetrating radar) to investigate the presence of munitions.

Industrial chemical: A chemical developed or manufactured for use in industrial operations or research, by industry, government, or academia. Hydrogen cyanide (AC), cyanogen chloride (CK), phosgene (CG), methylphosphonic difluoride (DF), and O-ethyl (2-isopropyl aminoethyl) methylphosphonite (QL) are considered industrial chemicals.

Intrusive activity: An activity that involves or results in the penetration of the ground surface at an area known or suspected to contain non-stockpile CWM. Intrusive activities can be of an investigative or remediation nature.

Maximum credible event (MCE): The worst single event that could occur at any time, with maximum release of a chemical agent from a munition, container, or process as a result of an unintended, unplanned, or accidental occurrence.

Non-stockpile chemical warfare materiel: Chemical warfare materiel (defined above) that is not included in the chemical stockpile. Non-stockpile chemical warfare materiel is divided into five categories: buried CWM; recovered chemical weapons (items recovered during range clearing operations, from chemical burial sites, and from research and development testing); former chemical weapon production facilities; binary chemical weapons; and miscellaneous CWM (unfilled munitions and devices and equipment specially designed for use directly in connection with employment of chemical weapons).

Non-Stockpile chemical warfare materiel remediation: The planned, longer-term remediation (as opposed to time critical or non-time critical removal activities) of an area known or suspected to contain non-stockpile CWM, in accordance with Defense Environmental Restoration Program (DERP) procedures; may be preceded by time-critical or non-time critical removal activities. Incorporates the planned progression through the four phases of hazard identification, site investigation, remedial design and cleanup, and site closeout.

Ordnance and explosives (OE): OE consists of either (1) ammunition, ammunition components, or explosives that have been abandoned, expelled from demolition pits or burning pads, lost, discarded, buried, or fired. Such ammunition, ammuniiton components, and explosives are no longer under accountable record control of any DoD organization or activity; or (2) explosives soil (explosives soil refers to mixtures of explosives in soil, sand, clay, or other media at concentrations such that the mixture itself is explosive).

Off-site transportation: Transportation beyond the boundaries of the FUDS or the installation.

Pre-operational survey: Survey to ascertain that personnel, equipment, and materiels required for work activities are on site, that personnel are trained and qualified to

perform their work assignments, and that work procedures and safety controls are appropriate for the tasks, effective in accomplishing the work objectives, and provide for an adequate level of safety. Pre-operational surveys are based on the approved safety submission, incorporate personnel interviews, records reviews, equipment and material inventories and performance tests, and simulations of planned work and emergency response activities.

Recovered chemical warfare materiel: Non-stockpile CWM that was previously discarded, buried, or fired, and discovered either unexpectedly or during planned environmental restoration operations.

"Recovered Chemical Warfare Materiel Emergency Response Plan": The plan developed by the U.S. Army Materiel Command which delineates hazards, control measures, procedures, and responsibilities for emergency response to non-stockpile CWM.

Remediation: See "Non-stockpile chemical warfare materiel remediation."

Removal: See "Biological warfare materiel and non-stockpile chemical warfare materiel emergency removal."

Response: The removal action or remedial action (used individually or in combination) to control the source of a release, limit exposure of humans to a release, or respond to an imminent threat.

Safety submission: The document that serves as the specifications for conducting work activities at the project. The safety submission details the scope of the project, the planned work activities, and potential hazards (including the maximum credible event) and the methods for their control. The safety submission includes: a work plan; a soil sampling plan; a monitoring plan; an interim holding facility plan; a transportation plan; a site-safety and health plan; a protective action plan and the plans to protect the public in the event of a chemical agent incident; a public affairs plan; Technical Escort Unit operations orders; an anomaly review board plan; and conventional ordnance/explosives storage, transportation, and disposal plans.

Site closure: The procedures necessary to complete actions at a site once investigation and cleanup are complete and a decision to take no further actions is made. Site closure is complete when all regulatory agency concurrences are gained, all reporting and document handling requirements are met, and National Priorities List delisting has occurred (when applicable).

Site investigation: Activities undertaken to determine the presence, type, distribution, density, and location of BWM and/or non-stockpile CWM. Includes physical detection

as well as chemical sampling and monitoring. Activities may include laboratory analyses in the case of biological agents or toxins.

Storage: Storage for purposes other than on-site interim storage.

Tabletop exercise: An exercise utilizing simulations to conduct drills of emergency response to differing BWM or non-stockpile CWM accident/incident scenarios. The purposes of the tabletop exercises are to ensure the effectiveness of these responses, to identify deficiencies or omissions in the emergency response process, and to establish continuity and coordination among response agencies.

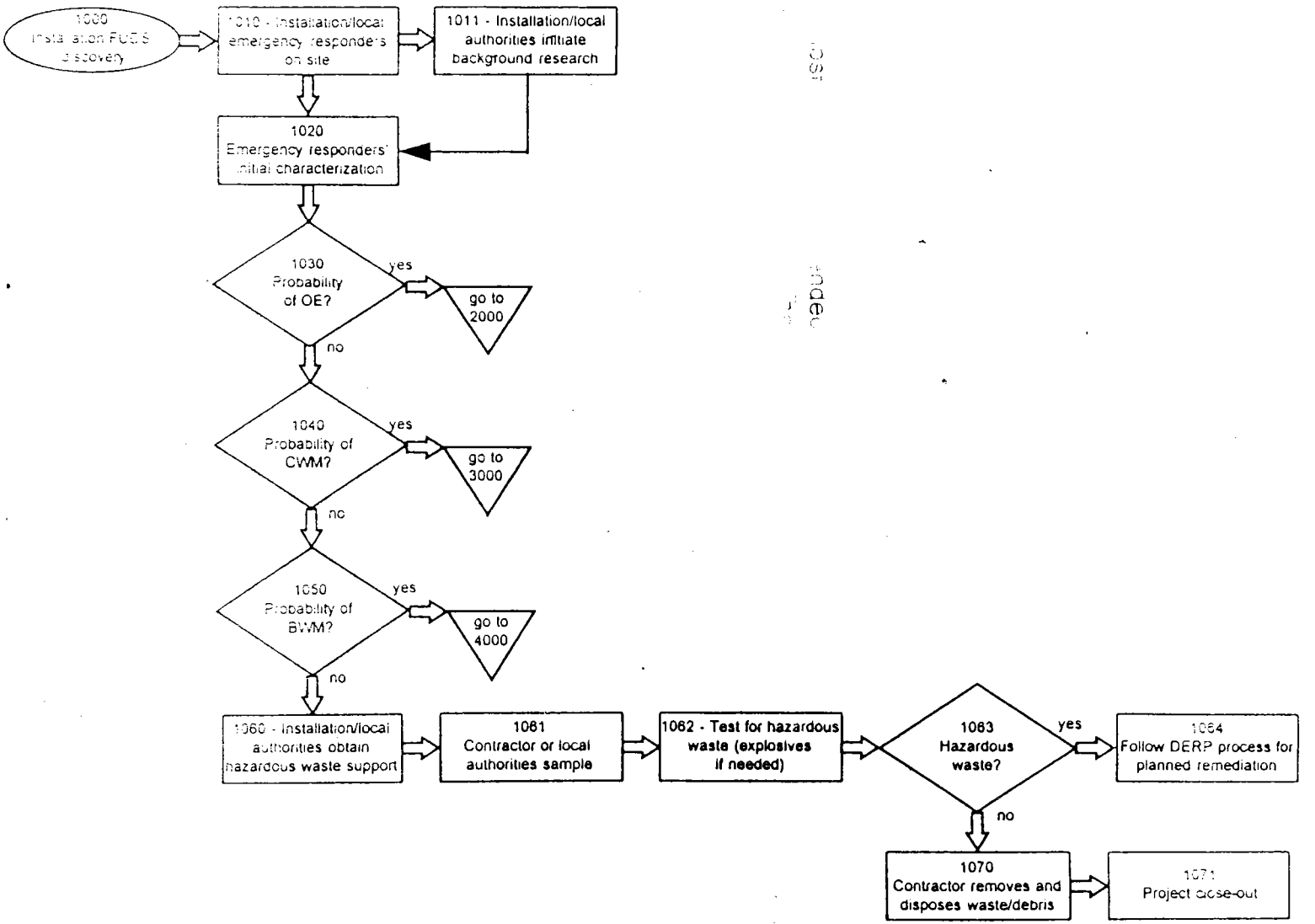
APPENDIX C

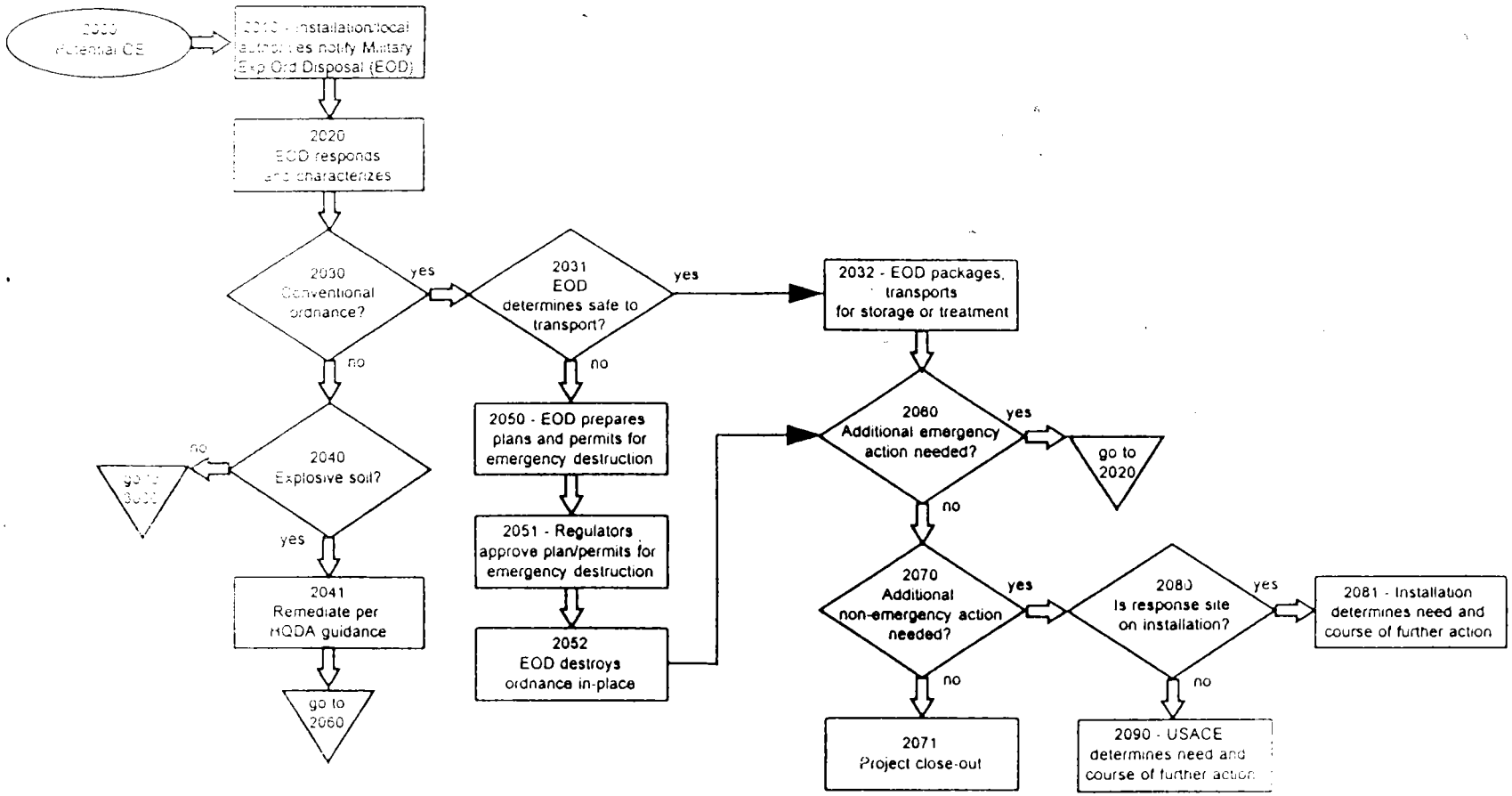
RESPONSE PROCEDURES

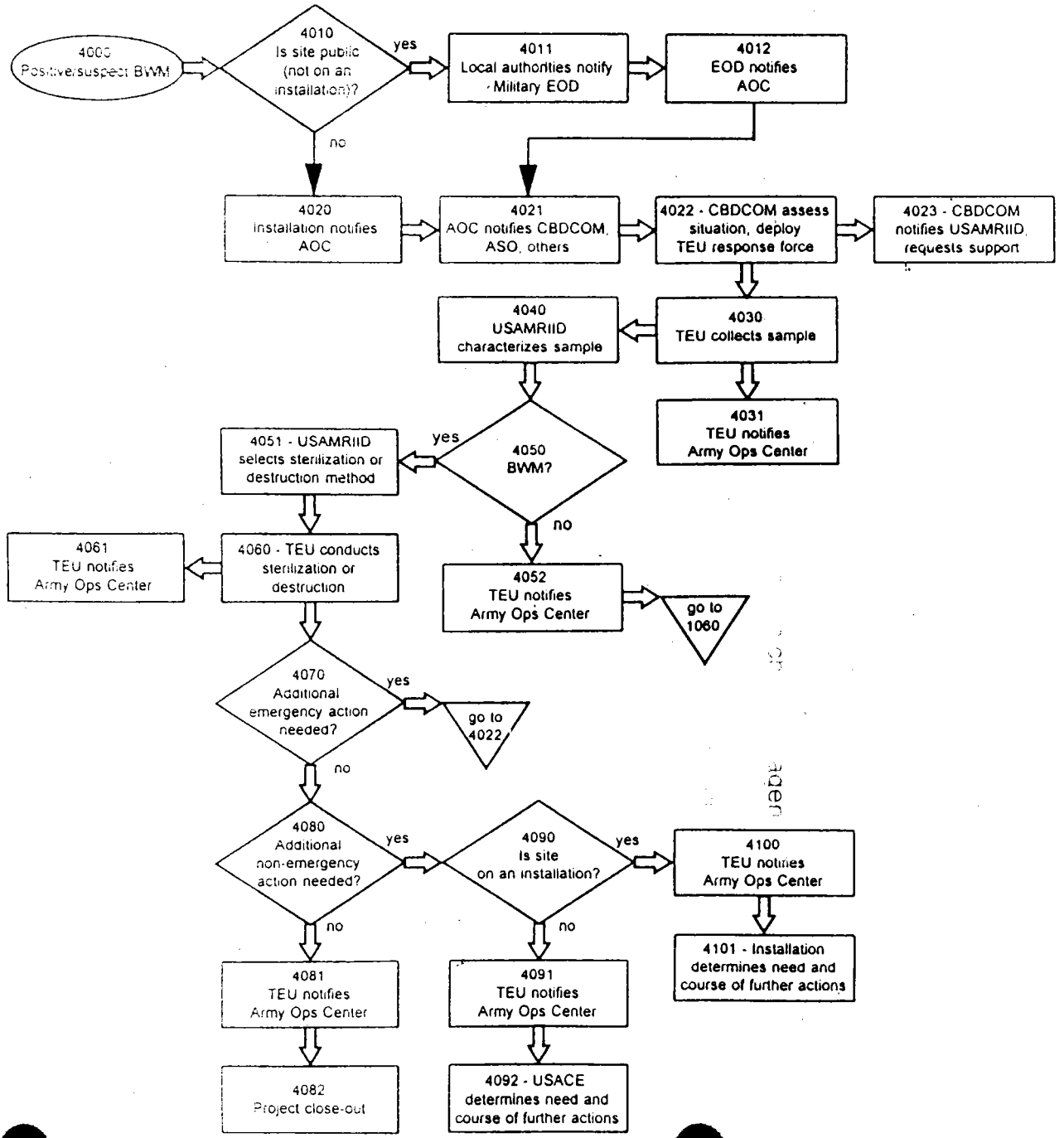
This Appendix outlines procedures for removal and remediation of biological warfare materiel (BWM) and non-stockpile chemical warfare materiel (CWM). These procedures are depicted in the context of an unplanned discovery of an item with the potential to be BWM, non-stockpile CWM, conventional ordnance, or hazardous waste.

Abbreviations are as follows:

AOC - Army Operations Center
ASO - Army Safety Office
BWM - biological warfare materiel
CBDCOM - Chemical and Biological Defense Command
CWM - chemical warfare materiel
DERP - Defense Environmental Restoration Program
EOD - Explosive Ordnance Disposal
FUDS - formerly used Defense sites
IHF - interim holding facility
PMCD - Program Manager for Chemical Demilitarization
TEU - Technical Escort Unit
USACE - US Army Corps of Engineers
USAMRIID - US Army Medical Research Institute of Infectious Diseases
USDHHS - US Department of Health and Human Services


1000
Installation FUDS discovery
1010 - Installation/local emergency responders on site
1011 - Installation/local authorities initiate background research
1020
Emergency responders' initial characterization
1030
Probability of OE?
yes
go to 2000
no
1040
Probability of CWM?
yes
go to 3000
no
1050
Probability of BWM?
yes
go to 4000
no
1060 - Installation/local authorities obtain hazardous waste support
1061
Contractor or local authorities sample
1062 - Test for hazardous waste (explosives if needed)
1063
Hazardous waste?
yes
1064
Follow DERP process for planned remediation
no
1070
Contractor removes and disposes waste/debris
1071
Project close-out


2000
Potential OE
2010 - Installation/local authorities notify Military Exp Ord Disposal (EOD)
2020
EOD responds and characterizes
2030
Conventional ordnance?
yes
2031
EOD determines safe to transport?
yes
2032 - EOD packages, transports for storage or treatment
no
2040
Explosive soil?
no
go to 3000
yes
2041
Remediate per HQDA guidance
go to 2060
no
2050 - EOD prepares plans and permits for emergency destruction
2051 - Regulators approve plan/permits for emergency destruction
2052
EOD destroys ordnance in-place
2060
Additional emergency action needed?
yes
go to 2020
no
2070
Additional non-emergency action needed?
yes
2080
Is response site on installation?
yes
2081 - Installation determines need and course of further action
no
2071
Project close-out
no
2090 - USACE determines need and course of further action


4000
Positive/suspect BWM
4010
Is site public (not on an installation)?
yes
no
4011
Local authorities notify Military EOD
4012
EOD notifies AOC
4020
Installation notifies AOC
4021
AOC notifies CBDCOM, ASO, others
4022 - CBDCOM assess situation, deploy TEU response force
4023 - CBDCOM notifies USAMRIID, requests support
4030
TEU collects sample
4031
TEU notifies Army Ops Center
4040
USAMRIID characterizes sample
4050
BWM?
yes
no
4051 - USAMRIID selects sterilization or destruction method
4052
TEU notifies Army Ops Center
go to 1060
4060 - TEU conducts sterilization or destruction
4061
TEU notifies Army Ops Center
4070
Additional emergency action needed?
yes
go to 4022
no
4080
Additional non-emergency action needed?
yes
no
4090
Is site on an installation?
yes
no
4100
TEU notifies Army Ops Center
4101 - Installation determines need and course of further actions
4081
TEU notifies Army Ops Center
4082
Project close-out
4091
TEU notifies Army Ops Center
4092 - USACE determines need and course of further actions